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PATENT ABSTRACTS OF JAPAN

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states:

(71) Applicant: **HAMADA HIROYASU**

(72) Inventor: **HAMADA HIROYASU**

(74) Representative:

(54) **ULTRAHIGH SPEED AND SENSITIVITY COOLING FAN**

(57) Abstract:

PURPOSE: To improve high heat radiation efficiency by forming a block wherein a porous sintered layer is sintered, welding or brazing a fin blade and the block, providing airtightness, and sealing the volatile liquid such as water as actuating liquid.

CONSTITUTION: Heat is quickly transmitted to a porous sintered layer 6 from a heated semiconductor module through the wall of a block by heat conduction. Stagnating refrigerant liquid in the space between the porous layers is quickly overheated by said heat. The liquid is evaporated and moved to a fin blade as vapor (the pressure of the refrigerant liquid in the sealed part is reduced). The vapor which has reached the porous inside part at the inner wall of the fin blade is cooled and returned to the liquid. At this time, the heat is moved to the fin blade together with the vapor. Heat is radiated to the outer air from the fin blade when the vapor returns to the liquid. The refrigerant which is

returned to the liquid flows along the porous layer 6 at the inner wall of the fin blade and returns to a liquid well in the block.

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